

WHAT IS CLAIMED IS:

1. A disk array apparatus comprising:
a cache memory for temporarily storing data to be read
5 from or written to disks; and
a control unit which associates data associated with
logical addresses with physical addresses, writes the data
associated with physical address in the cache memory and
processes preferentially for writing the data associated with
10 the physical addresses in the cache memory to the disks.
2. The disk array apparatus as claimed in claim 1,
wherein said control unit releases the data associated
with the physical addresses in the cache memory from a state
15 in which the data is associated with the physical addresses
after confirming that the writing is completed.
3. The disk array apparatus as claimed in claim 1,
wherein said control unit comprises a plurality of
20 control units which are physically independent of one another
and wherein if a failure occurs in one control unit, another
control unit takes over the preferential processing for the
data associated with a physical address in the cache memory.
- 25 4. The disk array apparatus as claimed in claim 1,
wherein said cache memory is a nonvolatile memory.

5. The disk array apparatus as claimed in claim 2,
wherein said cache memory is a nonvolatile memory.

6. The disk array apparatus as claimed in claim 3,
5 wherein said cache memory is a nonvolatile memory.

7. A data writing method in a disk array apparatus for reading
and writing data from and to a plurality of disks in accordance
with a command issued from an upper-level host computer, the
10 method comprising the steps of:

before executing a processing for writing data to the
plurality of disks, associating data associated with logical
addresses with physical addresses to be temporarily stored
in a cache memory;

15 associating data associated with logical addresses with
physical addresses;

writing the data associated with physical address in the
cache memory; and

20 processing preferentially for writing the data
associated with the physical addresses in the cache memory
to the disks.

8. The data writing method as claimed in claim 7, further
comprising the step of:

25 releasing the data associated with the physical addresses
in the cache memory from a state in which the data is associated
with the physical addresses after confirming that the writing

is completed.

9. The data writing method as claimed in claim 7,

5 wherein said control unit comprises a plurality of
control units which are physically independent of one another
and wherein, if a failure occurs in one control unit, another
control unit takes over the preference processing for the
data associated with a physical address in the cache memory.

10 10. The data writing method as claimed in claim 8,

15 wherein said control unit comprises a plurality of
control units which are physically independent of one another
and wherein, if a failure occurs in one control unit, another
control unit takes over the preference processing for the
data associated with a physical address in the cache memory.